

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for reproducing contents information [[in]]_from an interactive optical disc device, comprising the steps of:

a) receiving contents information from a contents provider server via the Internet, storing the received contents information in a buffer memory, and synchronizing and reproducing data read from an interactive optical disc and the stored contents information;

b) if receipt of the contents information from the contents provider server is suspended or delayed, sending a last download position of the contents information in the buffer memory to the contents provider server, and sending a command for requesting re-sending of contents information subsequent to the last download position; and

c) in response to the command for requesting re-sending, receiving the contents information subsequent to the last download position, and synchronizing and reproducing the contents information subsequent to the last download position with the data read from the interactive optical disc.

~~a) synchronizing and reproducing data read from [[an]] interactive optical disc and contents information sent and downloaded from a contents provider server connected via the Internet;~~

~~b) if the sending of said contents information from said contents provider server is suspended or delayed, generating a command for requesting re-sending of specific contents information, based upon information about a size of said downloaded contents information, and sending the generated command to said contents provider server; and~~

~~e) reproducing said specific contents information re-sent from said contents provider server in response to said command together with data read from said interactive optical disc while re-synchronizing it with said data read from said interactive optical disc.~~

2-4. (Cancelled)

5. (Currently Amended) The method as set forth in claim 1, ~~wherein said step e) includes the steps of: further comprising the step of:~~

receiving from the contents provider server an acknowledgement of the command for requesting re-sending prior to the step of receiving the contents information.

~~e 1) receiving a command for notification of the re-sending of said specific contents information from said contents provider server; and~~

~~e 2) after said re-sending notification command is received, reproducing said specific contents information re-sent from said contents provider server together with said data read from said interactive optical disc while re-synchronizing it with said data read from said interactive optical disc.~~

6. (Currently Amended) A method for reproducing contents information ~~[[in]]~~ from an interactive optical disc device, comprising the steps of:

a) receiving contents information from a contents provider server via the Internet, storing the received contents information in a buffer memory, and synchronizing and reproducing data read from an interactive optical disc and the stored contents information;

~~a) synchronizing and reproducing data read from an interactive optical disc and contents information sent and downloaded from a contents provider server connected via the Internet;~~

~~b) if the sending of said~~receipt of the contents information from said ~~the~~ contents provider server into the buffer memory is suspended or delayed and if a size of the contents information

downloaded into the buffer memory and not reproduced yet is below a predetermined reference value, automatically pausing a data reproducing operation of said-the interactive optical disc for a predetermined period of time and, after the predetermined period of time, determining whether there is contents information received over said-the Internet; and

c) if there is contents information received over ~~said-the~~ Internet after the predetermined period of time, re-synchronizing and reproducing ~~the subsequently~~ received contents information and data read from ~~said-the~~ interactive optical disc.

7. (Cancelled)

8. (Currently Amended) The method as set forth in ~~claim 7~~claim 6, wherein the step of re-synchronizing and reproducing comprises:

delaying the re-synchronizing and reproducing until the size of contents information in the buffer memory and not reproduced yet becomes greater than or equal to the predetermined reference value.

~~said step c) includes the step of, if a size of contents information received over said Internet, downloaded into said buffer memory and not reproduced yet becomes greater than or equal to said predetermined reference value, automatically re-synchronizing and reproducing the received contents information and said data read from said interactive optical disc.~~

9. (Currently Amended) The method as set forth in claim 6, ~~wherein said step c)~~ includes further comprising:

~~the step of~~ resuming the paused data reproducing operation of ~~said the~~ interactive optical disc if there is no contents information received over ~~said the~~ Internet ~~even after said the~~ predetermined time period has elapsed.

10. (Cancelled)

11. (Currently Amended) A method for reproducing contents information [[in]] from an interactive optical disc device, comprising the steps of:

a) receiving contents information from a contents provider server via the Internet, storing the received contents information in a buffer memory, synchronizing and reproducing data read from an interactive optical disc and the stored contents information, and counting synchronizations between the data read from the interactive optical disc and the stored contents information;

b) if receipt of the contents information from the contents provider server is suspended or delayed, estimating a number of missed synchronizations during a corresponding suspension or delay period based on the counted synchronizations, and sending a command for requesting re-sending of contents information corresponding to the estimated number of missed synchronizations; and

c) in response to the command for requesting re-sending, receiving the contents information subsequent to the estimated number of missed synchronizations, and synchronizing and reproducing the contents information subsequent to the estimated number of missed synchronizations with the data read from the interactive optical disc.

~~a) synchronizing and reproducing data read from an interactive optical disc and contents information sent and downloaded from a contents provider server connected via the Internet;~~

~~b) if the sending of said contents information from said contents provider server is suspended or delayed, generating a command for requesting re-sending of specific contents information, based upon a counted contents information synchronization value, and sending the generated command to said contents provider server; and~~

~~e) reproducing said specific contents information re-sent from said contents provider server in response to said command together with data read from said interactive optical disc while re-synchronizing it with said data read from said interactive optical disc.~~

12-14. (Cancelled)

15. (Currently Amended) The method as set forth in ~~claim 13~~claim 11, wherein the step of estimating a number of missed synchronizations comprises:

~~said re-synchronizable contents information synchronization value is calculated~~

estimating the number of missed synchronizations with reference to a bandwidth of a current network bit rate.

16. (Currently Amended) The method as set forth in claim 11, ~~wherein said step e) includes the steps of:~~ further comprising the step of:

receiving from the contents provider server an acknowledgement of the command for requesting re-sending prior to the step of receiving the contents information.

~~e-1) receiving a command for notification of the re-sending of said specific contents information from said contents provider server; and~~

~~e 2) after said re-sending notification command is received, reproducing said specific contents information re-sent from said contents provider server together with said data read from said interactive optical disc while re-synchronizing it with said data read from said interactive optical disc.~~

17. (Currently Amended) The method as set forth in claim 16, ~~wherein~~ further comprising:
discarding contents information received before the acknowledgement.

~~said command for notification of the re-sending of said specific contents information is received from said contents provider server is discarded.~~

18. (Currently Amended) A method for reproducing contents information ~~[[in]]~~ from an interactive optical disc device, comprising the steps of:

a) receiving contents information from a contents provider server via the Internet, storing the received contents information in a buffer memory, synchronizing and reproducing data read from an interactive optical disc and the stored contents information, and calculating an offset between data read from the interactive optical disc and contents information received from the contents provider;

b) if receipt of the contents information from the contents provider server is suspended or delayed, sending a command for requesting re-sending of contents information and the offset to the contents provider server; and

c) in response to the command for requesting re-sending, receiving the contents information corresponding to the offset, and synchronizing and reproducing the contents information corresponding to the offset with the data read from the interactive optical disc.

~~a) synchronizing and reproducing data read from an interactive optical disc and contents information sent and downloaded from a contents provider server connected via the Internet;~~

~~b) if the sending of said contents information from said contents provider server is suspended or delayed, generating a command for requesting re-sending of specific contents information, based upon offset information of said data read from said interactive optical disc, and sending the generated command to said contents provider server; and~~

~~c) after a predetermined period of time has elapsed, reproducing said specific contents information re-sent from said contents provider server in response to said command together with data read from said interactive optical disc while re-synchronizing it with said data read from said interactive optical disc.~~

19-20. (Cancelled)

21. (Currently Amended) The method as set forth in ~~claim 18~~claim 22, wherein further comprising:

discarding contents information received prior to an end of the predetermined time period.
~~contents information received until said predetermined time period elapses is discarded.~~

22. (Currently Amended) The method as set forth in ~~claim 21~~claim 18, wherein said step c) includes the steps of~~comprises:~~

receiving from the contents provider server an acknowledgement of the command for requesting re-sending prior to the step of receiving the contents information, wherein

the step of synchronizing and reproducing includes waiting a predetermined time period after the acknowledgement is received prior to synchronizing and reproducing.

~~e-1) receiving a command for notification of the re-sending of said specific contents information from said contents provider server;~~

~~e-2) reproducing only said data read from said interactive optical disc for said predetermined time period after said re-sending notification command is received; and~~

~~e-3) after said predetermined time period has elapsed, reproducing said specific contents information re-sent from said contents provider server together with said data read from said interactive optical disc while re-synchronizing it with said data read from said interactive optical disc.~~

23. (Original) The method as set forth in claim 18, wherein said contents information sent from said contents provider server is audio data, and said data read from said interactive optical disc includes video data.

24. (Original) The method as set forth in claim 11, wherein said contents information sent from said contents provider server is audio data, and said data read from said interactive optical disc includes video data.

25. (Original) The method as set forth in claim 6, wherein said contents information sent from said contents provider server is audio data, and said data read from said interactive optical disc includes video data.

26. (Original) The method as set forth in claim 1, wherein said contents information sent from said contents provider server is audio data, and said data read from said interactive optical disc includes video data.

27. (Currently Amended) A method for providing contents information [[in]] from a contents provider server, comprising the steps of:

a) sending contents information from the contents provider server via the Internet to a buffer memory of an interactive optical disc device;

b) receiving an indication that receipt of the contents information by the buffer memory is suspended or delayed, the indication including a command for requesting re-sending of contents information subsequent to a suspension or delay point; and

c) in response to the command for requesting re-sending, sending the contents information subsequent to the suspension or delay point, the indication including one of

a last download position of the contents information in the buffer memory,
information corresponding to an estimated number of missed synchronizations during a
corresponding suspension or delay period, the estimated number of missed synchronizations based on
a number of counted synchronizations, and

an offset between data read from the interactive optical disc by the interactive optical disc device and contents information received from the contents provider by the interactive optical disc device.

~~a) sequentially sending contents information whose sending is requested by an interactive optical disc device connected via the Internet;~~

~~b) if the sending of said requested contents information is suspended or delayed, receiving a command, while including a parameter which is information regarding specific contents information, for requesting re-sending of said specific contents information, from said interactive optical disc device; and~~

~~e) re-sending said specific contents information to said interactive optical disc device in response to said command.~~

28. (Original) The method as set forth in claim 27, wherein said sent contents information is audio data to be reproduced synchronously with video data read from an interactive optical disc in said interactive optical disc device.

29. (Cancelled)

30. (Currently Amended) The method as set forth in claim 27, ~~wherein said step e) includes the steps of~~further comprising:

sending an acknowledgement of the command for requesting re-sending.

~~e-1) seeking a position of data corresponding to said information regarding said specific contents information;~~

~~e-2) sending a command for notification of the re-sending of said specific contents information to said interactive optical disc device; and~~

~~e-3) reading said specific contents information at said position and re-sending it to said interactive optical disc device.~~